### UNITED STATES DISTRICT COURT EASTERN DISTRICT OF TEXAS MARSHALL DIVISION

LightGuide, Inc.,

Case No. 2:22-cv-433

Plaintiff,

VS.

JURY TRIAL DEMANDED

Amazon.com, Inc., Amazon.com Services LLC

Defendants.

### **COMPLAINT FOR PATENT INFRINGEMENT**

This is an action for patent infringement in which LightGuide, Inc. makes the following allegations against Defendants Amazon.com, Inc. and Amazon.com Services LLC (collectively "Defendants" or "Amazon"), each of whom, individually and collectively, and without authority, willfully infringes the Patents asserted in this matter.

#### **PARTIES**

- 1. Plaintiff LightGuide, Inc. ("Plaintiff" or "LightGuide") is a Delaware corporation with its principal place of business at 48443 Alpha Drive, Suite 175, Wixom, MI USA 48393. LightGuide is the owner of all rights, title, and interest in and to United States Patent No. 7,515,981 (the "'981 Patent"), United States Patent No. 9,658,614 (the "'614 Patent"), and United States Patent No. 10,528,036 (the "'036 Patent") (collectively, the "Asserted Patents").
- 2. Defendant Amazon.com, Inc. is a Delaware corporation with a principal place of business located at 410 Terry Avenue North, Seattle, Washington 98109-5210, which may be served with process via its registered agent Corporation Service Company, 251 Little Falls Drive, Wilmington, Delaware 19808.
  - 3. Defendant Amazon.com Services LLC is a Delaware corporation with a principal

place of business located at 410 Terry Avenue North, Seattle, Washington 98109-5210. Amazon.com Services LLC is registered to do business in the State of Texas and may be served with process via its registered agent in Texas, Corporation Service Company dba CSC-Lawyers Incorporating Service Company at 211 E. 7<sup>th</sup> Street, Suite 620, Austin, TX 78701-3218. Amazon.com Services LLC is a wholly owned subsidiary of Amazon.com, Inc.

### **JURISDICTION AND VENUE**

- 4. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a) because this action arises under the patent laws of the United States, 35 U.S.C. §§ 1 *et seq*.
- 5. This Court has personal jurisdiction over Amazon because Amazon conducts business in and has committed acts of patent infringement in this District and the State of Texas and has established minimum contacts with this forum state such that the exercise of jurisdiction over Amazon would not offend the traditional notions of fair play and substantial justice.
- 6. Amazon transacts substantial business with entities and individuals in the State of Texas and this District, by among other things, willfully using the infringing methods and systems throughout the State of Texas and this District. Amazon relies on the infringing methods and systems to introduce and sell millions of products into the stream of commerce with the knowledge and expectation that they will be sold in the State of Texas and this District. According to Amazon, it has invested more than \$29 billion in the State of Texas since 2010 and employs more than 95,000 full- and part-time employees (as of Q4 2021), including at 36 fulfillment and sortation centers, 25 delivery stations, 3 tech hubs, 1 air gateway, 36 Whole Foods Market locations, 3 Amazon Hub Locker+ locations, 2 Amazon 4-Star stores, 2 Amazon Books stores, 5 Prime Now fulfillment centers, 1 wind farm, 7 On-site solar locations, 1 Amazon Pop-up location, 1 Amazon

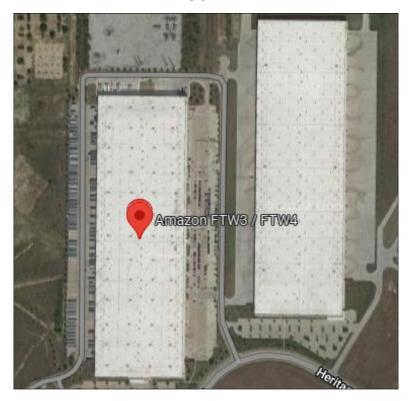
Pharmacy, and even through an Amazon Original Series filmed in Texas (Panic). Amazon's substantial business presence in the State of Texas even outpaces Amazon's presence in the State of Washington, where Amazon has only 9 fulfillment centers and only 85,000 full- and part-time employees. <sup>2</sup>

- 7. Amazon is subject to this Court's general and specific jurisdiction pursuant to due process and/or the Texas Long Arm Statute due at least to Amazon's substantial business in the State of Texas and this District, including through its past and ongoing infringing activities, because Amazon regularly does and solicits business herein, and/or because Amazon has engaged in persistent conduct and/or has derived substantial revenues from goods and services provided in the State of Texas and this District.
- 8. Venue is proper in this District pursuant to 28 U.S.C. § 1400(b) because Amazon has regular and established physical places of business in this District and has committed acts of patent infringement in the District—including at the Amazon Robotics Fulfillment Center FTW3/FTW4 located at 15201 Heritage Pkwy, Fort Worth, TX 76177 (Denton County).<sup>3</sup>

<sup>&</sup>lt;sup>1</sup> Amazon, *Investing in the U.S.*, available at: <a href="https://www.aboutamazon.com/investing-in-the-u-s">https://www.aboutamazon.com/investing-in-the-u-s</a>

<sup>&</sup>lt;sup>2</sup> See id.

<sup>&</sup>lt;sup>3</sup> Amazon has admitted that it operates at least one Amazon Fulfillment Center in this District. *See, e.g., Vocalife LLC v. Amazon.com, Inc.*, Case No. 2:19-cv-00123-JRG, Dkt. 226 at 2 ("Amazon admits that subsidiaries of Amazon.com, Inc. operate a fulfillment center in this district."). Indeed, in other pleadings, Amazon has not contested either "that this Court has personal jurisdiction over Amazon" or "that venue in this judicial district is proper under . . . 28 U.S.C. § 1400(b)." *Counterflo AB v. Amazon.com, Inc.*, Case No. 2:22-cv-00050-JRG-RSP, Dkt. 28 at 2-3.



Amazon FTW3/FTW4 Fulfillment Center at 15201 Heritage Parkway
FIGURE 2



Amazon FTW3/FTW4 Fulfillment Center at 15201 Heritage Parkway



Amazon FTW3/FTW4 Fulfillment Center at 15201 Heritage Parkway

9. The Amazon Fulfillment Centers in this District are regular, physical, continuous, and established places of business of Amazon, which Amazon has established, ratified, and controlled; has listed on its website and in its SEC filings as a place of business of Amazon; has employed thousands of Amazon employees to conduct Amazon's business from this District; and from which Amazon has willfully infringed the Asserted Patents in order to benefit Amazon in this District. Moreover, the regular and established places of business of Amazon, at which Amazon employees conduct Amazon business, are not limited to the Amazon Fulfillment Centers and also include, for example, Amazon Delivery Stations in Frisco, Lewisville, and McKinney. Amazon commits acts of infringement in this District, including as explained further below by making and using the infringing systems in, and performing at least one step of the accused methods of the Asserted Patents, at Amazon's regular and established places of business in this District.

#### SINGLE ACTION

10. This suit is commenced against Defendants pursuant to 35 U.S.C. § 299 in a single

action because (a) a right to relief is asserted against Defendants jointly, severally, or in the alternative with respect to or arising out of the same transaction, occurrence, or series of transactions or occurrences relating to the making, using, importing into the United States, offering for sale, and/or selling of the same accused systems and methods and (b) questions of fact common to all Defendants will arise in the action.

### **THE ASSERTED PATENTS**

- 11. This complaint asserts causes of action for willful infringement of United States Patent No. 7,515,981 (the "'981 Patent"), United States Patent No. 9,658,614 (the "'614 Patent"), and United States Patent No. 10,528,036 (the "'036 Patent") (collectively, the "Asserted Patents"). The Asserted Patents are valid and enforceable United States Patents, the entire right, title, and interest to which LightGuide owns by assignment.
- 12. The Asserted Patents relate to operational guide systems and methods adapted to provide light guided visual indicators to an individual to guide and monitor operational actions dynamically, including but not limited to stowing and picking products for fulfilling orders at a fulfillment center.
- On April 7, 2009, the U.S. Patent and Trademark Office duly and legally issued the '981 Patent, which is entitled "Light Guided Assembly System." Plaintiff holds all rights and title to the '981 Patent, including the sole and exclusive right to bring a claim for its infringement, and possesses all rights of recovery. The '981 Patent generally claims operational guide systems and methods adapted to provide light guided visual indicators to an individual to guide actions, comprising at least one sensor apparatus, a controller, and at least one directional light device. To the extent applicable, Plaintiff has complied with 35 U.S.C. § 287(a) with respect to the '981 Patent. A true and correct copy of the '981 Patent is attached as **Exhibit A**.

- 14. On May 23, 2017, the U.S. Patent and Trademark Office duly and legally issued the '614 Patent, which is entitled "Light Guided Assembly System and Method." Plaintiff holds all rights and title to the '614 Patent, including the sole and exclusive right to bring a claim for its infringement, and possesses all rights of recovery. The '614 Patent generally claims operational guide systems and methods of projecting visual indicators onto physical objects to guide actions of an individual, comprising at least one directional light device and a guide system controller including a plurality of selectable addressed visual display features having a pre-programmed individual address, whereby said guide system controller is operative to receive any sequence of input signals to dynamically control projection of any sequence of the visual indicators to guide sequential actions. To the extent applicable, Plaintiff has complied with 35 U.S.C. § 287(a) with respect to the '614 Patent. A true and correct copy of the '614 Patent is attached as Exhibit B.
- 15. On January 7, 2020, the U.S. Patent and Trademark Office duly and legally issued the '036 Patent, which is entitled "Light Guided Assembly System and Method." Plaintiff holds all rights and title to the '036 Patent, including the sole and exclusive right to bring a claim for its infringement, and possesses all rights of recovery. The '036 Patent generally claims operational guide systems and methods of projecting visual indicators onto physical objects to guide and monitor actions of an individual, comprising a directional light device, a guide system controller, a camera configured to capture an image of an individual, the physical object, and the visual indicator, and a monitor to display the image captured by said camera. To the extent applicable, Plaintiff has complied with 35 U.S.C. § 287(a) with respect to the '036 Patent. A true and correct copy of the '036 Patent is attached as **Exhibit C**.

# AMAZON COPIED AND IS WILLFULLY INFRINGING LIGHTGUIDE'S PATENTED TECHNOLOGY

16. LightGuide is the global leader in projected augmented reality ("AR") systems.

- 17. As claimed in the Asserted Patents, LightGuide's patented augmented reality systems and methods use digital projection technology to overlay virtual step-by-step instructions onto any work surface, interfacing with existing equipment to deliver immersive, interactive visual work instructions that simplify, standardize, improve, and monitor operational tasks that comprise a company's key material handling, fulfillment, assembly, inspection, and training operations.
- 18. LightGuide's patented systems comprise, for example, one or more projectors, sensors, cameras, monitors, input devices, computers, and software (see, e.g., Figure 4) and can connect to and communicate with any MES, PLC, or SCADA environment (see, e.g., Figure 5) across a global manufacturing footprint, enabling full digital traceability and real-time analytics for factory processes running anywhere in the world.

LightGuide Software

Touchscreen Monitor

CPU Factory Tools

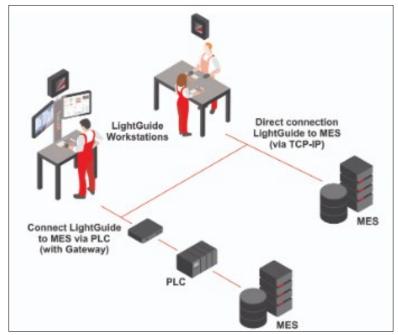
Program Input Devices

Advanced LED Projection

2D or 3D Vision

FIGURE 4

<u>Source</u>: LightGuide, *LightGuide Stand-Alone Systems*, available at: <u>https://www.lightguidesys.com/why-lightguide/ar-platform/</u>



<u>Source</u>: LightGuide, *LightGuide Factory Deployment*, available at: https://www.lightguidesys.com/why-lightguide/ar-platform/

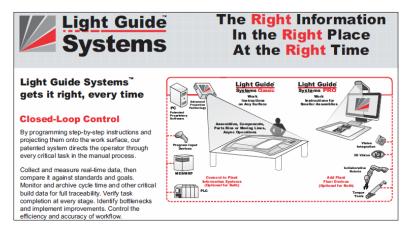
- 19. By transforming work instructions from outdated, hard to follow, monitor-based or binder-filling paper to immersive, intuitive, and illuminating visual workflow, LightGuide's patented systems and methods enable smarter, safer, and more efficient factory floors—and substantial cost savings and increased revenue generation—including typical operational improvements of 90% improvement in quality, 50% improvement in productivity, 30% improvement in training effectiveness, as well as significant improvement in reduced stress and cognitive load on frontline workers, among other benefits.
- 20. LightGuide powers 1000+ augmented reality systems across 200+ customers in 34+ countries around the world, including for Ford Motor, General Electric, L3 Harris, Lightning eMotors, Bosch Rexroth, Luxottica Group, TNO, and many other Fortune 100 and 500 companies.



<u>Source</u>: LightGuide, *A Smarter Way to Manufacture*, available at: https://www.lightguidesys.com/

- 21. Amazon became aware of LightGuide's patented technology no later than September 2016, when then-Amazon employee Prescott Glynn inquired about LightGuide's patented technology at the 2016 International Manufacturing Technology Show ("IMTS").
- 22. Following IMTS 2016, LightGuide sent Amazon an electronic copy of a LightGuide brochure, which described LightGuide's "patented Light Guide Systems," how that "patented system directs the operator through every critical task in the manual process," and how its "patented augmented reality software technology provides the visualization, traceability, flexibility, and quality control required to solve a growing variety of today's industrial challenges."

FIGURE 7



23. Later that month, another Amazon employee Luis Lopez—then the Global

Commodity Manager of Amazon's Prime Air Program (which operates from and has an airfield in this District)—reached out to LightGuide to continue "discussions about Light Guide Systems."

- 24. Over the ensuing years, Amazon continually sought out information from LightGuide regarding its patented technology, under the guise of entering into a long-term business relationship and taking a license to the Asserted Patents, while secretly copying LightGuide's patented technology and working to incorporate it into at least Amazon's Fulfillment Centers without taking a license to the Asserted Patents or otherwise paying LightGuide to use that patented technology, despite the substantial benefits and cost savings that technology was providing Amazon.
- 25. For example, on March 26, 2017, Amazon purchased from LightGuide a Light Guide System with a 5MP fixed focus camera and Dell OptiPlex 990 PC for Amazon's Innovation Lab 126 for \$62,712.00. The system was marked with the '981 patent. The purchase order was signed by then-Amazon employee Eddie Azuma.
- 26. Further, on September 20, 2017, Amazon purchased from LightGuide a second Light Guide System with a Cognex 5705 Camera and a second add-on projector for Amazon's Innovation Lab 126 for \$41,160. The system was marked with the '981 and '614 Patent numbers. The purchase order was signed by then-Amazon employee Eddie Azuma.
- 27. As another example, on March 9, 2018, Amazon purchased from LightGuide a third Light Guide System for \$37,928.00. The system was marked with the '981 and '614 Patent numbers. The purchase order was signed by then-Amazon employee Vikram Raghavan.
- 28. Further, in February 2018, Amazon executives and engineers visited LightGuide's Innovation Lab in Wixom, MI. During that visit, LightGuide discussed their patented technology with Amazon, including how it could be used in Amazon's Fulfillment Centers among other use

cases (as shown in Figure 8 below), and by demonstrating how LightGuide's patented technology could be used to provide light-guided work instructions to Amazon employees constructing Amazon Echo Dot devices (similar to the one screenshotted in Figure 9 below).

FIGURE 8



FIGURE 9

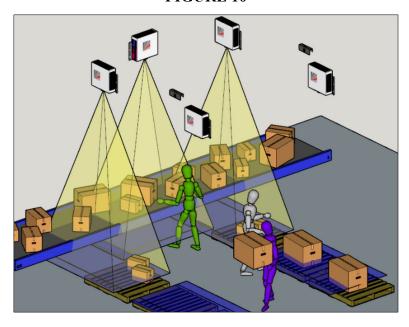


<u>Source</u>: LightGuide, *LightGuide Electronics Assembly Video*, available at: https://www.lightguidesys.com/resource-center/video/lightguide-electronics-assembly-video/

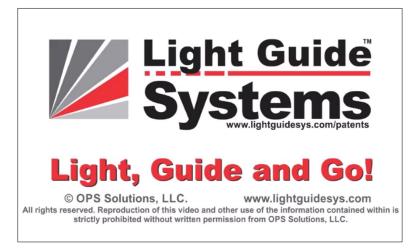
29. Later that month, another Amazon employee requested LightGuide to provide further information and demo videos demonstrating LightGuide's patented technology and pallet

use case for Amazon (as demonstrated in Figure 10, created by LightGuide for Amazon), stating to LightGuide "[w]e have an opportunity to show off your technology to our stakeholders."

FIGURE 10



30. Over the course of their communications, the information and materials that LightGuide provided to Amazon expressly made Amazon aware of the Asserted Patents, including for example, as shown in Figures 11-12 below and as featured on LightGuide's website.



#### FIGURE 12

The following Patents cover the Light Guide Systems and Light Guide Medical family of products including Light Guide Classic, Light Guide Pro, Stratus Pro, TrainAR, Spot Guide and Sight Guide.

#### **Light Guided Assembly System**

- US Patent 7,515,981
- Canadian Patent 2,625,348

#### Light Guided Assembly System and Method (MES interface)

- US Patent 9,658,614 & 10,528,036
- Canadian Patent 2,825,726
- Mexican Patent 346,859
- Czechia, Spain, France, Great Britain, Italy, Netherlands, Poland, Slovakia, Sweden, Belgium, EPC Patent 2,673,592
- Germany Patent 602012058024
- Patents pending in other jurisdictions

Source: LightGuide, *LightGuide Patents*, available at: <a href="https://www.lightguidesys.com/patents">https://www.lightguidesys.com/patents</a>

31. Despite being made expressly aware of the LightGuide's patented technology—and even admitting to the United States Patent Office that Amazon had knowledge of the Asserted Patents—Amazon has at times attempted to free itself of that knowledge and to be willfully blind of the Asserted Patents. On one occasion, for example, in house counsel for Amazon requested that LightGuide strike all references to LightGuide patents in materials being provided to Amazon, stating that "Amazon engineers need to develop as if there were no patents." As another example, when LightGuide put together a presentation demonstrating how LightGuide's patented

technology could be implemented into Amazon's picking and stowing operations to benefit Amazon's Fulfillment Centers (as shown in Figures 13-14 below), Amazon counsel again demanded that this information be removed from LightGuide's presentation to Amazon.

FIGURE 13



FIGURE 14



32. As demonstrated above and below, however, it is now apparent that Amazon secretly copied the inventions disclosed and claimed in the Asserted Patents and subsequently implemented LightGuide's patented systems and methods into at least Amazon's pick and stow operations in at least its Fulfillment Centers through its Nike Intent Detection System (Nike IDS), with "guided stow/pick activities through the Bin Vision System."



<u>Source</u>: Amazon, *Nike (IDS) Stow Classroom Training*, available at: <a href="https://en.ppt-online.org/727453">https://en.ppt-online.org/727453</a>.

- 33. LightGuide began to suspect that Amazon had copied and was willfully infringing the Asserted Patents after March 16, 2021, when Amazon disclosed portions of the accused methods and systems in a video posted online during its Industry Week webinar.
- 34. On October 11, 2021, LightGuide gave actual notice to Amazon that it believed Amazon's Fulfillment Center pick and stow operations were infringing and using without authorization LightGuide's five U.S. utility patents. Among other attachments, the notice letter also included attachments highlighting specific passages of the '981 and '036 Patents and demonstrated how Amazon was infringing. LightGuide requested Amazon to abate its infringement and reach a business resolution, rather than a legal one. Amazon declined and continues to willfully infringe the Asserted Patents.

35. Despite copying the Asserted Patents, by 2021, Amazon was willfully holding out (and advertising their infringing systems and methods and consciously seeking to profit from) LightGuide's patented technology—incorporated into at least Amazon's "guided stow/pick activities through bin vision system"—as technology that Amazon supposedly had "Invent[ed]" (which is not true, because LightGuide invented it).

FIGURE 16



Source: Laura Squier, Amazon, AWS re:Invent Nov 29-Dec 3, 2021, available at: <a href="https://dl.awsstatic.com/events/reinvent/2021/How\_Amazoncom\_transforms\_customer\_experiemces\_through\_AIML\_INO202.pdf">https://dl.awsstatic.com/events/reinvent/2021/How\_Amazoncom\_transforms\_customer\_experiemces\_through\_AIML\_INO202.pdf</a>

36. Further, despite copying the Asserted Patents, in 2022, Amazon was willfully passing off (and consciously seeking to wrongly profit from) LightGuide's patented technology as technology that others needed to "Learn[] from Amazon" (which is not true, because Amazon learned the patented systems and methods from LightGuide).



Source: Laura Squier, Amazon, AWS Summit May 18-19, 2022, available at: <a href="https://dl.awsstatic.com/events/Summits/aws-summits/Learning">https://dl.awsstatic.com/events/Summits/aws-summits/Learning</a> from Amazon AI ML at Amazon.com EXC102.pdf

37. Amazon's infringement of the Asserted Patents is willful, wanton, malicious, bad faith, deliberate, consciously wrongful, flagrant, and characteristic of a pirate—including because as explained above and below, Amazon lured LightGuide into teaching Amazon how to incorporate the infringing systems and methods into Amazon's operations, copied LightGuide's patented technology, has culpable knowledge of its clear infringement, has concealed and misrepresented the true inventors of the patented technology, has failed to take a license to the Asserted Patents or to take other remedial actions to cease and cure that infringement, and instead made a consciously wrongful decision to use Amazon's size and financial condition to plunder LightGuide's patented technology and to force LightGuide to seek redress in this Court.

# COUNT ONE INFRINGEMENT OF U.S. PATENT NO. 7,515,981

- 38. Plaintiff repeats and incorporates by reference each preceding paragraph as if fully set forth herein and further states:
  - 39. Amazon has willfully infringed and continues to willfully infringe at least claim 12

of the '981 Patent in violation of 35 U.S.C. § 271, either literally or through the doctrine of equivalents, by making, using, selling, or offering for sale in the United States, and/or importing into the United States, without authorization, systems and methods that practice at least claim 12 of the '981 Patent, including by committing acts of infringement in this District. Amazon is liable for its infringement of the '981 Patent pursuant to at least 35 U.S.C. § 271(a), (c), (d) and/or (f).

- 40. More specifically, Amazon makes, uses, sells, offers for sale, imports into the United States, and/or supplies or causes to be supplied from the United States, light guided operational guide systems, which infringe at least claim 12 of the '981 patent.
- 41. For example, in at least the "stowing" and "picking" operations used in its Amazon Fulfillment Centers, including in this District, Amazon uses the infringing, e.g., "NIKE IDS" operational guide system, comprising at least one sensor apparatus, a controller, at least one directional light device, which is configured to monitor operation information associated with the actions it guides.

IDS Equipment

Projector

• This will light, in purple, certain bins on the Pod to notify the stower that they should not stow their current scanned item into those selected bins in order to avoid bin violations

RGB Camera
• This is a camera that takes pictures in color. It is located overhead and takes a top down picture of the Pod face

ODS Camera
• 2 X ODS cameras. One is located at the bottom of the station and takes a picture of the bottom half of the Pod. The other camera is located at the top of the station and takes a picture of the bottom ball of the Pod.

Cognex
• This is the primary device used to scan items. The associate can use the hand held scanner for difficult barcodes

FIGURE 18

Source: Amazon, *Nike (IDS) Stow Classroom Training*, available at: https://en.ppt-online.org/727453.

42. Claim 12 is illustrative of the '981 Patent. It recites an operational guide system adapted to provide visual indicators to an individual to guide sequential actions, said operational

guide system comprising: at least one sensor apparatus, said at least one sensor apparatus operable to detect operation information and generate an output indicative of said operation information; a controller, said controller receiving at least a first input signal indicative of said operation information and selectively providing at least one command signal in response to said first input signal; and at least one directional light device, said at least one directional light device selectively operable to project and target at least one indicating light in response to said at least one command signal from said controller, wherein said controller is configured to monitor operational information associated with sequential actions, said operational information including at least one selected from the group consistent of a cycle time, an incorrectly performed action, a time between sequential actions, and an operator identification.

- 43. Amazon's NIKE IDS system for its stowing and picking operations, for example, meets every element of this claim. The NIKE IDS system is an operational guide system adapted to provide visual indicators to an individual to guide sequential actions during Amazon's stowing operations. As Amazon has explained, for example, the NIKE IDS system uses "computer vision using Amazon SageMaker Ground Truth [to] automatically guide[] associates with a clear light indicator to signify where items should not be placed."
- 44. The NIKE IDS system comprises at least one sensor apparatus operable to detect operational information and generate an output indicative of said operation information. For example, the NIKE IDS system comprises at least one sensor apparatus in the form of a Cognex camera and/or a handheld bar code scanner, to detect operational information from the Amazon Standard Identification Number (ASIN) contained on the item being stowed.

<sup>&</sup>lt;sup>4</sup> This description of infringement is illustrative and not intended to be an exhaustive or limiting explanation of every manner in which Amazon infringes the '981 Patent.

<sup>&</sup>lt;sup>5</sup> Amazon, Amazon Knows Industrial Operations, available at: https://aws.amazon.com/industrial/



#### Cognex

 This is the primary device used to scan items. The associate can use the hand held scanner for difficult barcodes

<u>Source</u>: Amazon, *Nike (IDS) Stow Classroom Training*, available at: <a href="https://en.ppt-online.org/727453">https://en.ppt-online.org/727453</a>.

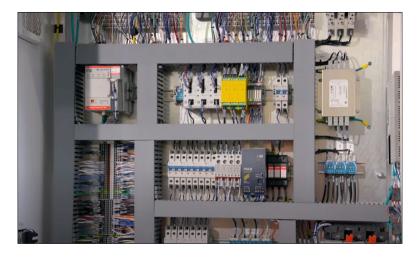
45. As Amazon has explained, "every time an associate touches a product, they scan a unique barcode for that item which we call the Amazon Standard Identification Number or ASIN that's stored in our inventory so we know what the quantity and location of that item is at any given time":

FIGURE 20



<u>Source</u>: Amazon, *Amazon Fulfillment Center Tour with AWS*, available at: <a href="https://www.youtube.com/watch?v=8nKPC-WmLjU">https://www.youtube.com/watch?v=8nKPC-WmLjU</a>

46. The NIKE IDS system also comprises a controller receiving at least a first input signal indicative of said operation information and selectively providing at least one command signal in response to said first input signal. For example, as Amazon has explained, "thousands of programmable logic controllers, sensors, and automatic sorters . . . route items":



<u>Source</u>: Amazon, *Amazon Knows Industrial Operations*, available at: https://aws.amazon.com/industrial/

47. The NIKE IDS system also comprises at least one directional light device selectively operable to project and target at least one indicating light in response to said at least one command signal from said controller. For example, the NIKE IDS system comprises at least one projector selectively operable to project and target at least one indicating light in purple or magenta certain bins on the Pod to notify the individual that, in order to avoid bin violations, they should not stow the item they scanned into the light-indicated bins.

FIGURE 22



#### **Projector**

 This will light, in purple, certain bins on the Pod to notify the stower that they should not stow their current scanned item into those selected bins in order to avoid bin violations

Source: Amazon, *Nike (IDS) Stow Classroom Training*, available at: <a href="https://en.ppt-online.org/727453">https://en.ppt-online.org/727453</a>.

48. As Amazon has explained, "when an associate scans an item you'll see magenta lights over some of the bins in the pod. This lets the associate know not to place that item in those locations as artificial intelligence driven logic has determined that the bin is full, that placing an item there may negatively impact the pods overall weight distribution, or that a visually similar

item is there and may cause confusion later when an associate needs to pick the item. The associate can then place the item in any of the other bins":

FIGURE 23



<u>Source</u>: Amazon, *Amazon Fulfillment Center Tour with AWS*, available at: https://www.youtube.com/watch?v=8nKPC-WmLjU

49. Further, the controller in the NIKE IDS System is configured to monitor operational information associated with the associate's sequential actions, including at least one selected from the group consisting of a cycle time, an incorrectly performed action, a time between sequential actions, and an operator identification. For example, the NIKE IDS System is configured to monitor the associate's actions when stowing the items as directed by the operational guide system, including by monitoring, for example, the associate's stow rate, time elapsed between items scans (as shown below in Figure 10), time off task, and when an associate incorrectly performs an action such as if the associate stows an item in a bin with a magenta indicating light, if the associate stows an item without first scanning the item, or if the associate were to engage in "multiple events." 6

<sup>&</sup>lt;sup>6</sup> See also, e.g., Amazon, Nike (IDS) Stow Classroom Training, available at: <a href="https://en.ppt-online.org/727453"><u>https://en.ppt-online.org/727453</u></a>.

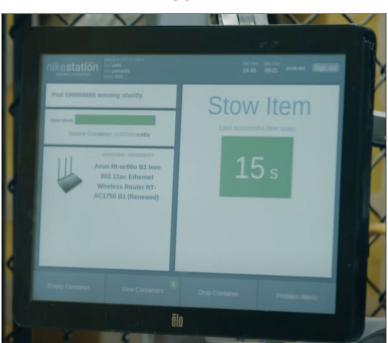


FIGURE 24

<u>Source</u>: PBS, "You're Just Disposable": Former Amazon Workers Speak Out, available at: <a href="https://www.youtube.com/watch?v=3-KMXng5Cp0">https://www.youtube.com/watch?v=3-KMXng5Cp0</a>

- 50. Amazon committed and is committing the foregoing infringing activities without license from LightGuide. Amazon's acts of infringement have damaged and irreparably harmed LightGuide, as owner and assignee of the '981 Patent. LightGuide is entitled to recover from Amazon the damages it has sustained as a result of Amazon's wrongful acts in an amount subject to proof at trial. Amazon's infringement of LightGuide's rights under the '981 Patent will continue to irreparably harm LightGuide.
- 51. Amazon has had actual knowledge of the '981 Patent since no later than September 2016. Amazon's continued infringement, despite its knowledge that it infringes the '981 Patent, is intentional, deliberate, willful, and characteristic of a pirate.
- 52. In addition, LightGuide believes the evidence will show after a reasonable opportunity for discovery that Amazon has infringed and continues to infringe the '981 Patent in violation of 35 U.S.C. § 271(f) by, for example, supplying or causing to be supplied in or from the

United States all or a substantial portion of the components of the operational guide systems claimed in the '981 Patent, where such components are uncombined in whole or in part, in such manner as to actively induce the combination of such components outside of the United States in a manner that would infringe the '981 Patent if such combination occurred within the United States. For example, Amazon video tours of Amazon Fulfillment Centers outside of the United States (like the one for the LTN4 Fulfillment Centre in Dunstable, UK featured in Figure 25 below) show that Amazon—with full knowledge of the Asserted Patents—has deliberately and intentionally supplied and continues to supply all or a substantial portion of the components of the infringing light-guided operational guide system (including at least one sensor apparatus, a controller, at least one directional light device, at least one camera, and at least one monitor) from the United States to its Fulfillment Centers around the world and combined those components in a manner that would infringe the '981 Patent if combined within the United States.

FIGURE 25



<u>Source</u>: Amazon, *Amazon Fulfillment Center Video Tour*, available at: https://www.youtube.com/watch?v=UAKPoAn2cB0

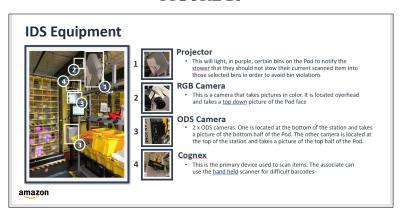
53. In addition, and in the alternative should Amazon contend that one or more of its subsidiaries, agents, employees, and/or others conduct some or all of the activities alleged to directly infringe the '981 Patent, Amazon is liable for infringement pursuant to 35 U.S.C. § 271(c) and/or (d), because with knowledge and intent to infringe the '981 Patent, Amazon has both actively induced any such alleged third parties to directly infringe the '981 Patent by, for example, providing the infringing systems described above to any such alleged third parties and instructing any such alleged third parties to perform the methods described above in at least Amazon's Fulfillment Centers (including this District) in order to benefit Amazon; and contributorily infringed the '981 Patent by providing, offering to sell, selling within the United States (including in this District), and/or importing into the United States a component of the accused systems described above and/or an apparatus for use in practicing the accused methods described above, which constitute a material part of the invention of the '981 Patent knowing the same to be especially made or especially adapted for use in an infringement of the '981 Patent and not a staple article or commodity of commerce suitable for substantial noninfringing use.

# **COUNT TWO**INFRINGEMENT OF U.S. PATENT NO. 9,658,614

- 54. Plaintiff repeats and incorporates by reference each preceding paragraph as if fully set forth herein and further states:
- 55. Amazon has willfully infringed and continues to willfully infringe at least claim 11 of the '614 Patent in violation of 35 U.S.C. § 271, either literally or through the doctrine of equivalents, by using, selling, or offering for sale in the United States, without authorization, methods that practice at least claim 11 of the '614 Patent, including by committing acts of infringement in this District. Amazon is liable for its infringement of the '614 Patent pursuant to at least 35 U.S.C. § 271(a) and/or (c).

- 56. More specifically, Amazon uses, sells, and offers for sale light-guided operational methods, which infringe at least dependent claim 11 of the '614 patent.
- 57. For example, in at least the "stowing" and "picking" methods used in its Amazon Fulfillment Centers, including in this District, Amazon uses the infringing, e.g., "NIKE IDS" operational guide method, comprising a controller, a projector, and a sensor apparatus including a plurality of programmed selectable addressed display features and a plurality of programmed positional identifiers, which is configured to receive a sequence of one or more input signals from a separate computer system or controller to cause said guide system to dynamically project any sequence of visual indicators for a particular guided operation and through which Amazon uses an infringing method of projecting visual indicators to guide "stow" and "pick" actions of its Fulfillment Center employees.

FIGURE 26



Source: Amazon, *Nike (IDS) Stow Classroom Training*, available at: https://en.ppt-online.org/727453.

58. Claim 11 is illustrative of the '614 Patent. It recites a method of projecting visual indicators to guide actions of an individual for a particular guided operation, said method comprising: providing a guide system having a guide system controller and a projector, said guide system controller including a plurality of selectable addressed display features with each said

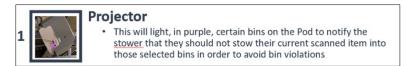
addressed display feature having a unique pre-programmed individual address identifier within said guide system controller; receiving a sequence of one or more input signals at said guide system controller, with the input signals being provided to said guide system controller by a separate computer system or controller to cause said guide system to project visual indicators for a particular guided operation; selecting one or more particular addressed display features by said guide system controller from the plurality of said addressed display features based on said input signals, wherein said input signals control selection of said addressed display features based on the address identifier for the said addressed display feature; and projecting one or more visual indicators corresponding to said selected particular addressed display features onto one or more physical objects associated with the particular guided operation, with said guide system controller configured to control operation of said projector to project said visual indicators based on said input signals; wherein said guide system controller is operative to receive any sequence of input signals from the separate computer system or controller to dynamically control projection of any sequence of said visual indicators corresponding to respective said addressed display features based on said input signals corresponding to desired visual indicators for the particular operation with a combination of the sequence of input signals resulting in a creation of a dynamic, real time projection of visual indicators; further comprising providing a confirmation signal to said guide system controller in response to completion of any action by an individual based on one or more of said visual indicators; and providing a sensor apparatus, wherein said sensor apparatus is operable to detect completion of the action and wherein said sensor apparatus generates said confirmation signal.

59. Amazon's NIKE IDS method for its stowing and picking operations, for example,

meets every element of this claim.<sup>7</sup> The NIKE IDS method uses a method of projecting visual indicators to guide actions of an individual for a particular guided operation. As Amazon has explained, for example, the NIKE IDS method uses "computer vision using Amazon SageMaker Ground Truth [to] automatically guide[] associates with a clear light indicator to signify where items should not be placed."

60. In the infringing NIKE IDS method, Amazon provides a guide system having a guide system controller and a projector, wherein said guide system control includes a plurality of selectable addressed display features with each addressed display feature having a unique preprogrammed individual address identifier. For example, the NIKE IDS guide method has a projector that is configured to project one or more visual indicators corresponding to said selected particular addressed display features (such as a solid magenta light or a blinking white light) onto one or more physical objects (such as one or more selected bins on a specific Pod).

#### FIGURE 27



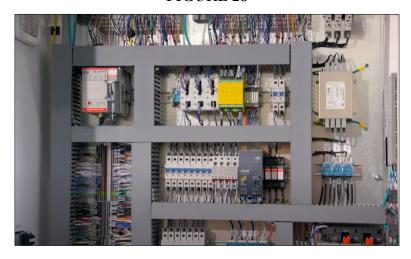
Source: Amazon, *Nike (IDS) Stow Classroom Training*, available at: <a href="https://en.ppt-online.org/727453">https://en.ppt-online.org/727453</a>.

61. The NIKE IDS method being provided also has a guide system controller including a plurality of selectable addressed display features (such as color, shape, flashing, etc.) having unique pre-programmed individual address identifiers. For example, as Amazon has explained, "thousands of programmable logic controllers . . . in an FC route items to multiple locations":

<sup>&</sup>lt;sup>7</sup> This description of infringement is illustrative and not intended to be an exhaustive or limiting explanation of every manner in which Amazon infringes the '614 Patent.

<sup>&</sup>lt;sup>8</sup> Amazon, *Amazon Knows Industrial Operations*, available at: https://aws.amazon.com/industrial/





<u>Source</u>: Amazon, *Amazon Knows Industrial Operations*, available at: https://aws.amazon.com/industrial/

As explained further throughout, the guide system controller used in the infringing NIKE IDS method is configured to select one or more particular addressed display features each having a unique pre-programmed individual address identifier within the guide system controller. For example, as demonstrated in Figures 29-32 below, in the infringing NIKE IDS method, the guide system controller is configured to dynamically project lights of different colors, shapes, frequencies, etc. onto physical objects at various locations corresponding to positional identifiers, such as green or magenta, box-shaped lights onto one or more or all of the bins in a stow pod; white, perimeter-ribbons around some or all of the bins in a particular stow pod; or even some combination of these green, magenta, and/or white lights.



<u>Source</u>: Amazon, *Amazon Fulfillment Center Tour with AWS*, available at: <a href="https://www.youtube.com/watch?v=8nKPC-WmLjU">https://www.youtube.com/watch?v=8nKPC-WmLjU</a>

FIGURE 30



<u>Source</u>: Amazon, *Amazon Fulfillment Center Tour with AWS*, available at: <a href="https://www.youtube.com/watch?v=8nKPC-WmLjU">https://www.youtube.com/watch?v=8nKPC-WmLjU</a>





<u>Source</u>: Amazon, *Amazon Fulfillment Center Tour with AWS*, available at: <a href="https://www.youtube.com/watch?v=8nKPC-WmLjU">https://www.youtube.com/watch?v=8nKPC-WmLjU</a>

FIGURE 32



<u>Source</u>: Amazon, *Amazon Fulfillment Center Tour with AWS*, available at: <a href="https://www.youtube.com/watch?v=8nKPC-WmLjU">https://www.youtube.com/watch?v=8nKPC-WmLjU</a>

63. In the infringing NIKE IDS method, the guide system controller receives a sequence of one or more input signals being provided to said guide system controller by a separate computer system or controller to cause the guide system to project visual indicators for a particular guided operation. In particular, the guide system controller (a) selects one or more particular addressed display features from the plurality of said addressed display features based on said input

32

signals which control selection of said addressed display features based on the address identifier for said addressed display feature; and (b) controls the operation of said project to project one or more visual indicators corresponding to said selected particular addressed display features onto one or more physical objects associated with a particular guided operation.

64. For example, as Amazon has explained and demonstrated in the Figures above and below, "We see a great example of computer vision helping with automation. When an associate scans an item you'll see magenta lights over some of the bins in the pod. This lets the associate know not to place that item in those locations as artificial intelligence driven logic has determined that the bin is full, that placing an item there may negatively impact the pods overall weight distribution, or that a visually similar item is there and may cause confusion later when an associate needs to pick the item. The associate can then place the item in any of the other bins":

aws,

FIGURE 33

<u>Source</u>: Amazon, *Amazon Fulfillment Center Tour with AWS*, available at: https://www.youtube.com/watch?v=8nKPC-WmLjU

65. In the infringing NIKE IDS method, the guide system controller is operative to receive any sequence of input signals from the separate computer system or controller to dynamically control projection of any sequence of said visual indicators corresponding to

respective said addressed display features based on said input signals corresponding to desired visual indicators for the particular operation with a combination of the sequence of input signals resulting in a creating of a dynamic, real time projection of visual indicators.

66. For example, based on the input signals received by the guide system controller when an Amazon associate scans any particular item to be stowed—randomly and in any sequence, as the associate happens to grab that particular item or any other—the guide system controller dynamically controls and causes the projector to project one or more visual indicators onto particular locations of a particular stow pod to guide the associate in real time as to where (or where not) to stow that particular item based on, for example, whether a bin is full, whether the item is too big for a bin, that placing an item in a bin may affect the pod's weight distribution, that another visually-similar item has already been stowed in that bin, and so on. This dynamic method is illustrated, for example, in Figures 34-36 below (and at 3:24-3:56 of the Amazon Fulfillment Center Video Tour from which those screenshots in those Figures were taken), which illustrate how the infringing method results in the creation of a dynamic, real-time projection of visual indicators to guide the Amazon associate as to where to stow each particular item that comes through their workstation.

FIGURE 34



<u>Source</u>: Amazon, *Amazon Fulfillment Center Tour with AWS*, available at: <a href="https://www.youtube.com/watch?v=8nKPC-WmLjU">https://www.youtube.com/watch?v=8nKPC-WmLjU</a>

FIGURE 35



<u>Source</u>: Amazon, *Amazon Fulfillment Center Tour with AWS*, available at: <a href="https://www.youtube.com/watch?v=8nKPC-WmLjU">https://www.youtube.com/watch?v=8nKPC-WmLjU</a>





<u>Source</u>: Amazon, *Amazon Fulfillment Center Tour with AWS*, available at: <a href="https://www.youtube.com/watch?v=8nKPC-WmLjU">https://www.youtube.com/watch?v=8nKPC-WmLjU</a>

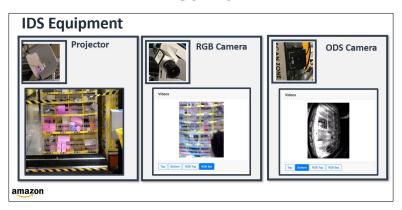
67. In the infringing NIKE IDS method, also provided is a confirmation signal to said guide system controller in response to completion of an action by an individual based on one or more of the said visual indicators from a provided sensor apparatus that is operable to detect completion of the action and wherein said sensor apparatus generates said confirmation signal. For example, as Amazon has explained, "[C]omputer vision doesn't stop there. It will also detect what bin the associated reached into and knows where that item is placed. As one final step, it will take a picture of the pod and use image recognition to count the number of items in the bin, making sure the count matches what is recorded in our tracking systems." The infringing NIKE IDS method, sometimes also referred to as Bin Vision or Computer Vision, provides this sensor apparatus and generates the signal indicating when and where an associate stowed (or did not stow)

<sup>&</sup>lt;sup>9</sup> Amazon, *Amazon Fulfillment Center Tour with AWS*, available at: https://www.youtube.com/watch?v=8nKPC-WmLjU

the scanned item through the use of one or more sensor apparatuses (such as a bar code reader, a video and/or image camera, a vision system, a projector, etc.). 10

68. For example, as demonstrated in the NIKE (IDS) Stow Classroom Training PowerPoint, these confirmation signals may be generated by one or more of the projector, the RGB camera, or the ODS cameras used in the infringing NIKE IDS methods:

FIGURE 37



Source: Amazon, *Nike (IDS) Stow Classroom Training*, available at: <a href="https://en.ppt-online.org/727453">https://en.ppt-online.org/727453</a>.

69. As further explained by Amazon in that training presentation, the RGB and ODS cameras are used to "read [an associate's] stows," including by taking images and videos of them:

FIGURE 38

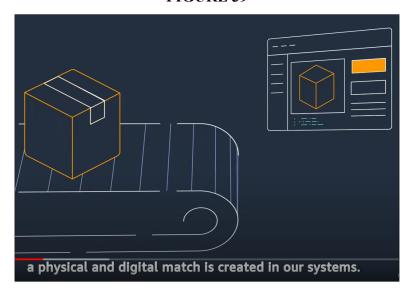


Source: Amazon, *Nike (IDS) Stow Classroom Training*, available at: <a href="https://en.ppt-online.org/727453">https://en.ppt-online.org/727453</a>.

<sup>&</sup>lt;sup>10</sup> See also, e.g., Amazon, AWS Knows Industrial Operations, available at: <a href="https://www.youtube.com/watch?v=GnAnb9yjViM">https://www.youtube.com/watch?v=GnAnb9yjViM</a> ("The system then automatically detects what bin the associate reached into to avoid manually scanning the bin location.").

70. According to another Amazon video, once an item has been stowed in a bin, it is through these one or more sensor apparatuses that "a physical and digital match is created in our systems so just a few seconds after an item is stowed you can order it on amazon.com":

FIGURE 39



<u>Source</u>: Amazon, *Amazon Fulfillment Center Tour with AWS*, available at: https://www.youtube.com/watch?v=8nKPC-WmLjU

- 71. Amazon committed and is committing the foregoing infringing activities without license from LightGuide. Amazon's acts of infringement have damaged and irreparably harmed LightGuide, as owner and assignee of the '614 Patent. LightGuide is entitled to recover from Amazon the damages it has sustained as a result of Amazon's wrongful acts in an amount subject to proof at trial. Amazon's infringement of LightGuide's rights under the '614 Patent will continue to irreparably harm LightGuide.
- 72. Amazon has had actual knowledge of the '614 Patent since no later than September 2017. Amazon's continued infringement, despite its knowledge that it infringes the '614 Patent, is intentional, deliberate, willful, and characteristic of a pirate.
  - 73. In addition, and in the alternative should Amazon contend that one or more of its

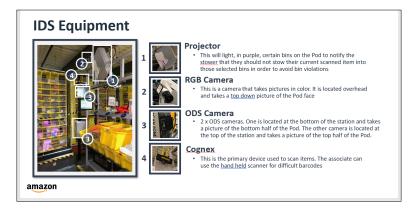
subsidiaries, agents, employees, and/or others conduct some or all of the activities alleged to directly infringe the '614 Patent, Amazon is liable for infringement pursuant to 35 U.S.C. § 271(c) because with knowledge and intent to infringe the '614 Patent, Amazon has actively induced any such alleged third parties to directly infringe the '614 Patent by, for example, instructing any such alleged third parties to perform the methods described above in at least Amazon's Fulfillment Centers (including in this District) in order to benefit Amazon.

# <u>COUNT THREE</u> INFRINGEMENT OF U.S. PATENT NO. 10,528,036

- 74. Plaintiff repeats and incorporates by reference each preceding paragraph as if fully set forth herein and further states:
- 75. Amazon has willfully infringed and continues to willfully infringe at least claim 7 of the '036 Patent in violation of 35 U.S.C. § 271, either literally or through the doctrine of equivalents, by making, using, selling, or offering for sale in the United States, and/or importing into the United States, without authorization, systems and methods that practice at least claim 7 of the '036 Patent, including by committing acts of infringement in this District. Amazon is liable for its infringement of the '036 Patent pursuant to at least 35 U.S.C. § 271(a), (c), (d), and (f).
- 76. More specifically, Amazon makes, uses, sells, offers for sale, imports into the United States, and/or supplies or causes to be supplied from the United States, light guided operational guide systems, which infringe at least claim 7 of the '036 patent.
- 77. For example, in at least the "stowing" and "picking" operations used in its Amazon Fulfillment Centers, including in this District, Amazon uses the infringing, e.g., "NIKE IDS" operational guide system, comprising a directional light device, a guide system controller, a camera located proximate to said directional light device, and a monitor remote from said directional light device, which is adapted to provide visual indicators to an individual to guide

actions of the individual for a particular guided operation.

#### FIGURE 40



Source: Amazon, *Nike (IDS) Stow Classroom Training*, available at: https://en.ppt-online.org/727453.

78. Claim 7 is illustrative of the '036 Patent. It recites a guide system adapted to provide visual indicators to an individual to guide actions of the individual for a particular guided operation, said guide system comprising: a directional light device, said directional light device being selectively operable to project and target at least one indicating light; a guide system controller, said guide system controller being operable to control said directional light device to project a visual indicator with said indicating light onto a physical object associated with the particular guided operation; a camera located proximate to said directional light device and configured to capture an image of at least the individual, the physical object and said visual indicator when said visual indicator is projected onto the physical object; a monitor, said monitor being remote from said directional light device and said guide system controller, with said monitor being operably interfaced with said camera to display the image captured by said camera.

79. Amazon's NIKE IDS system for its stowing operations, for example, meets every element of this claim.<sup>11</sup> The NIKE IDS system is a guide system adapted to provide visual

<sup>&</sup>lt;sup>11</sup> This description of infringement is illustrative and not intended to be an exhaustive or limiting

indicators to an individual to guide actions of the individual for a particular guided operation. As Amazon has explained, for example, the NIKE IDS system uses "computer vision using Amazon SageMaker Ground Truth [to] automatically guide[] associates with a clear light indicator to signify where items should not be placed." <sup>12</sup>

80. The NIKE IDS system comprises a directional light device that is selectively operable to project and target at least one indicating light. For example, the NIKE IDS system comprises at least one projector that projects and targets at least one indicating light. As Amazon has explained, for example, this projector "will light, in purple, certain bins on the Pod to notify the stower that they should not stow their current scanned item into those selected bins in order to avoid bin violations":

explanation of every manner in which Amazon infringes the '036 Patent.

<sup>&</sup>lt;sup>12</sup> Amazon, *Amazon Knows Industrial Operations*, available at: https://aws.amazon.com/industrial/

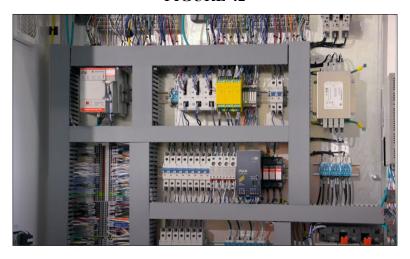
FIGURE 41



<u>Source</u>: Amazon, *Nike (IDS) Stow Classroom Training*, available at: <a href="https://en.ppt-online.org/727453"><u>https://en.ppt-online.org/727453</u></a>.

81. The NIKE IDS system also comprises a guide system controller that is operable to control said directional light device to project a visual indicator with said indicating light onto a physical object associated with a particular guided operation. For example, as Amazon has explained, "thousands of programmable logic controllers . . . route items to multiple locations":





<u>Source</u>: Amazon, *Amazon Knows Industrial Operations*, available at: https://aws.amazon.com/industrial/

82. As Amazon has explained, this guide system controller uses "artificial intelligence driven logic" to control the projector to project visual indicators with indicating lights onto physical objects (e.g., bins and pods) associated with a particular guided operation (e.g., stowing): "when an associate scans an item you'll see magenta lights over some of the bins in the pod. This lets the associate know not to place that item in those locations as artificial intelligence driven logic has determined that the bin is full, that placing an item there may negatively impact the pods overall weight distribution, or that a visually similar item is there and may cause confusion later when an associate needs to pick the item. The associate can then place the item in any of the other bins":

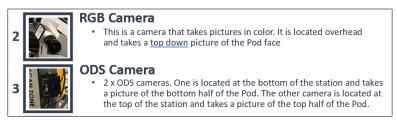




<u>Source</u>: Amazon, *Amazon Fulfillment Center Tour with AWS*, available at: <a href="https://www.youtube.com/watch?v=8nKPC-WmLjU">https://www.youtube.com/watch?v=8nKPC-WmLjU</a>

83. The NIKE IDS system also comprises at least one camera, proximate to the projector, that is configured to capture an image of at least the individual, the physical object, and the visual indicator when the visual indicator is projected on to the physical object. For example, as demonstrated in the NIKE (IDS) Stow Classroom Training presentation, the NIKE IDS system comprises an RGB camera and two ODS cameras, each of which is proximate to the projector, that are used to take capture images in order to "read [an associate's] stows":

FIGURE 44

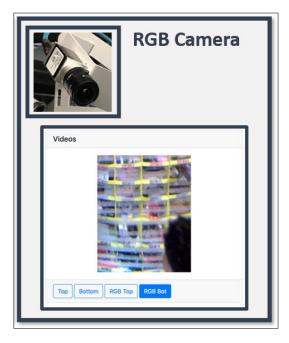


<u>Source</u>: Amazon, *Nike (IDS) Stow Classroom Training*, available at: <a href="https://en.ppt-online.org/727453">https://en.ppt-online.org/727453</a>.

84. As demonstrated in the same Amazon training presentation (and shown in Figures 46 and 47 below), one or more of these cameras is configured to capture an image of at least the

individual, the physical object, and the visual indicator when said visual indicator is projected:

FIGURE 45



<u>Source</u>: Amazon, *Nike (IDS) Stow Classroom Training*, available at: <a href="https://en.pptonline.org/727453"><u>https://en.pptonline.org/727453</u></a>.

FIGURE 46



<u>Source</u>: Amazon, *Nike (IDS) Stow Classroom Training*, available at: <a href="https://en.pptonline.org/727453">https://en.pptonline.org/727453</a>.

- 85. The infringing NIKE IDS system also comprises a monitor, which is remote from the projector and the guide system controller, that is operably interfaced with one or more of these cameras to display the images captured by one or more of these cameras. For example, as Amazon has explained, "when the machine learning model has low confidence it sends the images to people to classify and train more ground truth data for our machine learning model." Amazon refers to at least some such remote employees as TRON or AVOC associates, who are "required to watch the video of the stowing activity in a fulfillment center, understand it thoroughly and make best use of the human judgement and available resources to indicate the activity captured in the video. They are expected to verify /mark the location of product through a tool while maintaining highest level of accuracy. This process helps in maintaining stow quality at the fulfillment center." According to Amazon, the infringing visual bin inspection systems and methods are "used in all of its FCs ["Fulfillment Centers"] and [are] processing millions [of] images in each center."
- 86. Amazon committed and is committing the foregoing infringing activities without license from LightGuide. Amazon's acts of infringement have damaged and irreparably harmed LightGuide, as owner and assignee of the '036 Patent. LightGuide is entitled to recover from Amazon the damages it has sustained as a result of Amazon's wrongful acts in an amount subject to proof at trial. Amazon's infringement of LightGuide's rights under the '036 Patent will continue to irreparably harm LightGuide.

Amazon, Amazon Fulfillment Center Tour with AWS, available at: <a href="https://www.youtube.com/watch?v=8nKPC-WmLjU">https://www.youtube.com/watch?v=8nKPC-WmLjU</a>.

Amazon, TRON Associate Job ID 1879483, available at: <a href="https://www.amazon.jobs/engb/jobs/1879483/tron-associate">https://www.amazon.jobs/engb/jobs/1879483/tron-associate</a>; see also, e.g., Amazon, Program Manager II, Amazon Vision Operations Center Job ID 1982443, available at: <a href="https://www.amazon.jobs/engb/jobs/1982443/program-manager-ii-amazon-vision-operations-center">https://www.amazon.jobs/engb/jobs/1982443/program-manager-ii-amazon-vision-operations-center</a>.

<sup>&</sup>lt;sup>15</sup> Amazon, Amazon Reduces Infrastructure Costs on Visual Bin Inspection by a Projected 40% Using Amazon SageMaker, available at: <a href="https://aws.amazon.com/solutions/case-studies/amazon-fulfillment-technologies-case-study/">https://aws.amazon.com/solutions/case-studies/amazon-fulfillment-technologies-case-study/</a>

- 87. Amazon has had actual knowledge of the '036 Patent since no later than June 2019. Amazon's continued infringement, despite its knowledge that it infringes the '036 Patent, is intentional, deliberate, willful, and characteristic of a pirate.
- 88. In addition, LightGuide believes the evidence will show after a reasonable opportunity for discovery that Amazon has infringed and continues to infringe the '036 Patent in violation of 35 U.S.C. § 271(f) by, for example, supplying or causing to be supplied in or from the United States all or a substantial portion of the components of the operational guide systems claimed in the '036 Patent, where such components are uncombined in whole or in part, in such manner as to actively induce the combination of such components outside of the United States in a manner that would infringe the '981 Patent if such combination occurred within the United States. For example, Amazon video tours of Amazon Fulfillment Centers outside of the United States (like the one for the LTN4 Fulfillment Centre in Dunstable, UK featured in Figure 48 below) show that Amazon—with full knowledge of the Asserted Patents—has deliberately and intentionally supplied and continues to supply all or a substantial portion of the components of the infringing NIKE IDS light-guided operational guide system (including at least one sensor apparatus, a controller, at least one directional light device, at least one camera, and at least one monitor) from the United States to its Fulfillment Centers around the world and combined those components in a manner that would infringe the '036 Patent if combined in the United States.





<u>Source</u>: Amazon, *Amazon Fulfillment Center Video Tour*, available at: https://www.youtube.com/watch?v=UAKPoAn2cB0

89. In addition, and in the alternative should Amazon contend that one or more of its subsidiaries, agents, employees, and/or others conduct some or all of the activities alleged to directly infringe the '036 Patent, Amazon is liable for infringement pursuant to 35 U.S.C. § 271(c) and/or (d), because with knowledge and intent to infringe the '036 Patent, Amazon has both actively induced any such alleged third parties to directly infringe the '036 Patent by, for example, providing the infringing systems described above to any such alleged third parties and instructing any such alleged third parties to perform the methods described above in at least Amazon's Fulfillment Centers (including in this District) in order to benefit Amazon; and contributorily infringed the '036 Patent by providing, offering to sell, selling within the United States (including in this District) and/or importing into the United States a component of the accused systems described above and/or an apparatus for use in practicing the accused methods described above, which constitute a material part of the invention of the '036 Patent knowing the same to be

especially made or especially adapted for use in an infringement of the '036 Patent and not a staple article or commodity of commerce suitable for substantial noninfringing use.

## **DEMAND FOR JURY TRIAL**

90. Plaintiff LightGuide hereby demands a jury trial for all issues so triable.

#### **PRAYER FOR RELIEF**

WHEREFORE, Plaintiff LightGuide, Inc. requests entry of judgment in its favor and against Defendants Amazon as follows:

- A. Declaring that Amazon has infringed United States Patent Nos. 7,515,981, 9,658,614, and 10,528,036;
- B. Declaring that Amazon's infringement of the Asserted Patents has been willful;
- C. Awarding lost profits and/or reasonable royalty damages to Plaintiff in an amount no less than a reasonable royalty for Amazon's infringement of the Asserted Patents, together with treble damages for willful infringement, prejudgment and post-judgment interest, and costs as permitted under 35 U.S.C. § 284;
- D. Awarding attorneys' fees pursuant to 35 U.S.C. § 285 or as otherwise permitted by law;
- E. Ordering Amazon to pay supplemental damages to LightGuide, including any ongoing royalties and interest, with an accounting, as needed;
- F. Enjoining Amazon from practicing the Asserted Patents; and
- G. Awarding such other costs and further relief as the Court may deem just and proper.

Dated: November 7, 2022

#### Respectfully submitted,

/s/ Matthew Berry with permission Claire

Abernathy Henry

Matthew R. Berry

Andres Healy

John E. Schiltz

SUSMAN GODFREY L.L.P.

1201 Third Avenue, Suite 3800

Seattle, WA 98101-3000

Tel: (206) 516-3880

Fax: (206) 516-3883

Email: mberry@susmangodfrey.com Email: ahealy@susmangodfrey.com Email: jschiltz@susmangodfrey.com

### Of counsel:

T. John Ward, Jr.

Texas State Bar No. 00794818

Claire Abernathy Henry

Texas State Bar No. 24053063

Andrea L. Fair

Texas State Bar No. 24078488

Garrett Parish

Texas State Bar No. 24125824

#### WARD, SMITH & HILL, PLLC

1507 Bill Owens Parkway

Longview, TX 75604

Phone: (903) 757-6400

Fax: (903) 757-2323

iw@wsfirm.com

claire@wsfirm.com

andrea@wsfirm.com

gparish@wsfirm.com

Attorneys for Plaintiff LightGuide, Inc.